

In re the Application of:
Alan C. Wendt et al.
Application No. 10/810,787
Response to Office Action of August 2, 2006

REMARKS

Claims 1-46 are pending. Claims 1 and 25 were amended to replace the term "usable" with the term "environmental" used elsewhere in these claims. Claims 1 and 25 were also amended to recite the apertures extend from the substrate first face to the substrate second face as supported by Fig. 2.

Claims 4 and 28 were amended to be clearer. This is consistent with paragraph 00026 bridging pages 7 and 8.

New Claims 35-38 recite the panel substrate is self-supporting as supported at page 4, paragraph [0018].

New Claims 39-42 recite the panel substrate is made of metal or polycarbonate as supported at page 4, paragraph [0018].

New Claims 43-46 recite the panel substrate is made of metal as supported at page 4, paragraph [0018].

It is respectfully submitted no new matter is presented by the above amendments.

I. 35 USC §103(a)

All of the pending claims 1-34 have been rejected under 35 U.S.C. 103(a) as being unpatentable over the primary reference to Chen (US2002/0117351) in view of Saylor et al. (US 4084367) and with respect to certain dependent claims, further in view of Daniels (US 3712846) or Wendt (US 6467228).

A. Claims 1, 3-4, 6, 8-9, 11-13 and 15-16

Claims 1, 3-4, 6, 8-9, 11-13 and 15-16 have been rejected under 35 U.S.C. 103(a) over Chen in view of Saylor. The Office action has cited Chen with respect to claim 1 for disclosure of a durable sound absorbing panel (10 in Fig. 1) having a surface burning resistance qualities for use in a structure having a useable area with the panel being said to comprise "A panel substrate (11 in Fig. 1) having a first face and a second face, the second face opposing the first face and substantially concealed from the environmental area when installed; the panel substrate,

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supportable from a structure, the panel substrate including a plurality of apertures (17 in Fig. 1) spread across the surface of the panel substrate.”

The Office action notes the disclosure of Chen does not teach the second face is covered with the non-woven fibrous material. However, the Office action asserts Saylor et al. discloses a panel 112 in Fig. 8 in which a non-woven fibrous material (141) is attached to a first face of a panel and applied such that the apertures (138 and 138a in Figure 9) are covered by the non-woven fibrous material. The Office action also asserts Saylor et al. discloses the non-woven fibrous material is positioned such that nearly complete exposure of the material occurs when installed, permitting viewing from the environmental area of the structure (Fig. 8 all but very edges of 41 are visible). The Office action thus concludes it would be obvious to one skilled in the art to combine the teachings of Saylor to have the panel substrate with a plurality of apertures covered by non-woven fibrous layer with the panel of Chen with a decorative appearance.

This rejection is respectfully traversed.

1. It is improper to combine Chen and Saylor

Chen, paragraph [0005] teaches its panel has a sound transmitting top layer, a rigid sound eliminating middle layer, and an elastic sound eliminating bottom layer. The sound eliminating bottom layer 13 in Figs. 1-4 of Chen is an elastic sound eliminating layer made, for example, from a porous elastic material such as granulated rubber (see Paragraph [0015]). In the embodiment of Fig. 5 Chen omits the elastic sound eliminating bottom layer 13 to only use two layers, namely, the sound directing top layer and the rigid sound absorbing layer. This is used when there is no need to eliminate low frequency sound.

It is improper to replace the rigid sound eliminating layer with a layer of non-woven fiber. Chen, paragraph [0005] teaches generally a soft sound absorbing material is not able to completely absorb sound waves. Thus, Chen requires the rigid sound eliminating middle layer 12. Chen, paragraph [0005] teaches the sound transmissible top layer allows sound waves to penetrate into the rigid sound-eliminating middle layer, which includes a plurality of checkered partitions to define a plurality of open-topped small compartments. Sound waves penetrated into

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the rigid sound-eliminating middle layer reflect repeatedly in the small compartments to result in energy dispersion and counterbalanced energy due to overlapped amplitude of the reflected sound waves, and are finally eliminated. This function cannot be performed by the layer of fabric of Saylor.

Thus, to replace the rigid sound eliminating board 12 of Chen with the layer of fabric of Saylor makes the panel of Chen inoperative as a sound eliminating board. Thus, the combination is improper.

Furthermore, Chen, paragraph [0013] teaches when the sound eliminating board 10 is used indoors, the top layer 11 may be made of ... rigid material with a plurality of tiny holes 17, or a gas-permeable soft material, such as non-woven fabrics (not shown). Thus, if Chen employs non-woven material it is to replace the top layer 11. Thus, even in this embodiment, the rigid sound eliminating layer 12 is present.

2. Saylor Does Not Make Up For the Deficiencies of Chen

Saylor, col. 4, lines 8-12, discloses the skins are covered by a layer of sound absorbing fibrous material such as a layer of fiberglass. When fiberglass or the equivalent is utilized for this outer layer, then the fiberglass layer in turn is covered by a thin layer of decorative fabric (see also, Saylor, col. 6, lines 53-56).

Present Claim 1 recites, "a non-woven fibrous material attached to the first face of the panel substrate and applied such that the apertures are covered by the non-woven fibrous material."

In contrast, the layer of fabric 141 of Saylor is not attached to metal facing sheet 122 having the holes. The fiberglass non-woven layer in Saylor is on the metal facing sheet 122 and is used to control sound flow and cover the apertures created by the metal skin layer that communicates with the honeycomb cell for sound control, but it is not intended to be substantially completely exposed to the environment since it does not provide a decorative layer.

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Present Claim 1 also recites, "the non-woven fibrous material is positioned such that nearly complete exposure of the material occurs when installed, permitting viewing from the environmental area of the structure."

In contrast, the non-woven fibrous material of Saylor would be fiberglass layer 124 which is hidden from view. There is no disclosure in Saylor that the fabric layer 141 is non-woven. Applicant submits the likelihood is much higher that the fabric 141 is woven due to the use of the product of Saylor as a sound absorbing wall panel.

Even if the layer of fabric was non-woven (which Applicant is not admitting), it is not the layer attached to the metal facing sheet 122. See, for example, Saylor, Col. 6, lines 52-56, in which a fiberglass layer 39 is substantially completely covered by a decorative fiber outer covering 41.

3. Claim 25 further distinguishes over the references

It is respectfully submitted the Chen panel having a plurality of apertures is its top panel. The sound eliminating layer or layers are below the top panel. Thus, particularly for Claim 25 reciting a ceiling system, covering the top layer of Chen with the fabric of Saylor would result in the fabric being hidden from view and, thus, falls outside the claims.

Also, replacing the bottommost elastic sound eliminating layer of Chen with the fabric layer of Saylor would result in the rigid sound eliminating layer being between the layer with the apertures and the fabric layer and, thus, falls outside the claims.

Moreover, replacing the elastic sound barrier layer of Chen with only the non-woven (fiberglass) layer of Saylor, is not obvious because Saylor teaches to use the fabric layer to cover the fiberglass layer. Also, this combination would also result in the rigid sound eliminating layer being between the layer with the apertures and the non-woven fiberglass layer.

4. Dependent Claims 3-4, 6, 8-9, 11-13 and 15-16

It is respectfully submitted these claims are non-obvious in view of the cited references at least for the reasons presented above regarding base Claim 1.

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B. Claims 2, 5, 10, 12, 17-21 and 23-24

Claims 2, 5, 10, 12, 17-21 and 23-24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Saylor as applied with respect to claim 1 above, and further in view of Daniels (US 3712846). The Office action relies upon the teaching of Daniels for the use of an adhesive to bond an outer covering (30 in Fig. 5) to a perforate member (35 in Fig. 5).

Applicant respectfully submits a clarification. The adhesive is used between the main body portion and associated members and/or covering of each panel (Daniels, col. 5, lines 52-53).

In particular, the main body 21 and member 23 may be bonded by adhesive (Daniels, col. 3, lines 60-61). Main body 21 and member 23 may be made of glass fibers bonded with fire resistant binder (Daniels, col. 3, lines 8-14). Main body 21 and member 23 have uninterrupted surfaces (Daniels, col. 2, lines 16-21) and are hard porous members (see Daniels, Abstract and Claim 1).

The perforate flexible outer covering 30 may be bonded to a surface 24 of member 23 with adhesive (Daniels, col. 2, lines 60-64, col. 4, lines 1-2; Daniels, col. 4, lines 35-48). The outer covering 30 is the surface that is meant to be viewed (see Daniels, col. 4, lines 70 - col. 5, line 2).

Fig. 10 teaches use of adhesive to bond main body 21D to a perforate covering 30D (Daniels, col. 5, lines 2-8 and col. 5, lines 37-43).

Daniels does not teach to bond layers 35 and 36 with adhesive to form outer covering 30. The covering 30 comprises a woven backing 35 and a plastic in the form of a vinyl plastic 36 bonded against the backing 35 and the plastic 35 may be molded against the backing 35 so the covering 30 is defined as a single unit (Daniels, col. 3, lines 36-37 and Claim 5). The covering 30 has its own openings 31 which extend therethrough (Abstract). Thus, the openings of the layers 35 and 36 are aligned.

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It is respectfully submitted Daniels does not make up for the deficiencies of Chen and Saylor. Thus, claims 2, 5, 10, 12, 17-21 and 23-24 are non-obvious in view of the cited references at least for the reasons presented above regarding base claim 1.

C. Claims 7, 14, 25, 27-28 and 30-34

Claims 7, 14, 25, 27-28 and 30-34 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Saylor as applied to claim 1 above, and further in view of Wendt (US 6467228). Wendt is primarily relied upon for the use of at least two side edges (27 and 29 in figure 1) each having a flange (26 and 28) for connection to a suspended ceiling grid wherein suspended ceiling grid includes a plurality of grid members interconnected to form panel openings, the grid members being suspended from the structure with hangers.

The Office action asserts the proposed panels of the combined teachings of Chen and Saylor do not disclose the use of side edges each having a flange for connection to a suspended ceiling grid. However, the Office action asserts it would be obvious to combine the flanged edges of Wendt with the panels of Chen and Saylor.

As stated above, it is improper to combine Chen and Saylor and these references do not make claim 1 (the base claims for claims 7 and 14) obvious. Wendt does not make up for this deficiency.

Moreover, it is respectfully submitted, there is no suggestion that these panels are intended for use in a system wherein the non-woven decorative layer would be disposed to be completely exposed to the environment through use of a horizontal grid with the panels having a flange for connection to the suspended ceiling grid.

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II. Conclusion

It is respectfully submitted all objections and/or rejections are overcome. Thus a Notice of Allowance is respectfully requested.

Please charge any fee deficiencies or credit any overpayments to Deposit Account No 10-4375.

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Respectfully submitted,
/anthony p venturino/
By: _____
Anthony P. Venturino
Registration No. 31674

APV/bms

ATTORNEY DOCKET NO.: APV31875/3632
STEVENS, DAVIS, MILLER & MOSHER, L.L.P.
1615 L STREET, N.W., SUITE 850
WASHINGTON, D.C. 20036
TEL. 202-785-0100 / FAX. 202-785-0200